

National 4 Homework 23

Questions 1, 2, 3 & 5 are Non Calculator

1. If $a = 3$, $b = -2$ and $c = 5$, evaluate

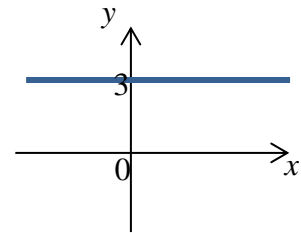
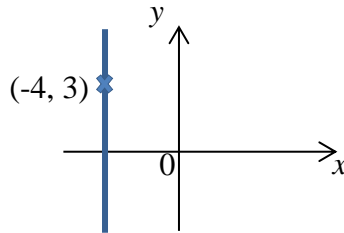
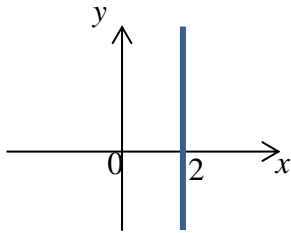
i) $a^2 + b^2$

ii) $ac - 2b$

iii) $3c + ab$

iv) $(a + b) \times 7 + 5$

2. Write down the equation of each of the lines.



3. Solve each of these equations for the unknown letter.

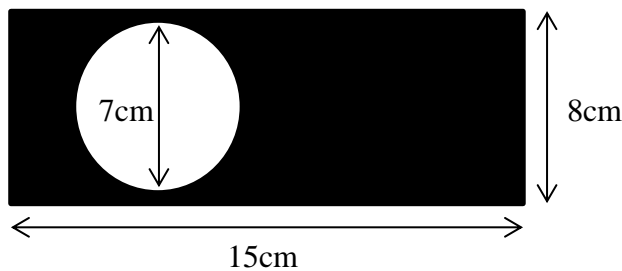
a) $4(3x + 5) = 48$

b) $12y + 7 = 5y + 56$

c) $2b - 7 = -9$

d) $9p - 10 = 3p - 22$

4. Calculate the shaded area.



5. The results below show the length of a spring when a force is applied.

Force (F)	1	2	3	4	5	6
Length (l)	4.0	4.9	5.8	6.9	7.9	9.1

a) Plot the points on a scattergraph and draw the best fitting straight line through them.

b) Use your graph to estimate the length when a force of 5.5 is applied.

6. A survey is conducted in a doctors surgery one day as part of a 'Quit Smoking' Drive. The results are as shown. You made find it helpful to copy and complete the table.

What is the probability that someone chosen at random

	Male	Female	Total
Smoker	21	17	
Non-Smoker	37	45	
Total			

a) Was Female and a non-smoker,

b) Was Male,

c) Was a Smoker?

Give all answers in their simplest form.